Potassium Iodide (KI)

Taking potassium iodide (also known as KI) after an incident involving radioactive materials may protect a person's thyroid gland from ionizing radiation. Taking KI will not protect you from other radioactive substances.

Vermont's KI Pre-Distribution Program:

One free dose of KI has been made available to each person who works or lives in the five towns (Brattleboro, Dummerston, Guilford, Halifax, Vernon) within the Emergency Planning Zone (EPZ) for Vermont Yankee Nuclear Power Plant. Parents/guardians were also eligible to receive a free dose for each child in their family. Participation in this program has been voluntary. Public schools, nursing homes, hospitals, and some day cares and private schools in the five-town EPZ also have KI distribution plans in place.

How will I know when to take KI — and when to stop?

If there is a serious emergency at Vermont Yankee, state health officials will tell you when to take KI. Tune to your Emergency Alert System radio station immediately for directions on evacuating, sheltering, or taking KI. If you are hearing impaired and you have registered with your town's emergency management office, you will be alerted by TDD.

For best protection, one dose of potassium iodide should be taken before or at the time of exposure, although it may still lower risk of thyroid cancer even if taken 3 to 4 hours after exposure. Because the radioactive iodine decays quickly, a single dose of KI may be all that is required. When the danger has passed, you will be notified to stop taking potassium iodide via the same Emergency Alert System, or you will receive instruction at the reception center.

IMPORTANT: Do not delay evacuation or ignore any other emergency directive to locate your supply of potassium iodide. If you are evacuated, you will be directed to a reception center.

If told to take KI, how much should I take?

The potassium iodide tablets that were distributed are small, white pills, 130 milligrams (mg) in size. They come wrapped in foil and labeled "IOSAT" and "Dist. By ANBEX."

One full 130-mg. tablet is the normal dose for adults. Women who are breastfeeding should take the adult dose, and their infants should take the recommended infant dose. Children approaching adult size (150 pounds or more) should take the adult dose, no matter how old they are.

RECOMMENDED DOSE:

• **Adults** – including pregnant or lactating women	130 mg.	1 tablet
• **Adolescents** over 12 through 18 years	65 mg.	1/2 tablet
• **Children** over 3 through 12 years	65 mg.	1/2 tablet
• **Infants** over 1 month old	32 mg.	1/4 tablet
• **Newborns** through 1 month old	16 mg.	1/8 tablet

One dose of KI at the proper dosage is usually all that is needed. Taking more than one dose at a time will not help, and could harm you. Pregnant or breastfeeding women should NOT have a repeat dose.

- **Do NOT take KI:** If you have dermatitis herpetiformis or hypocomplementemic vasculitis. (Both conditions are rare, but could indicate hypersensitivity to iodine.)

- **You can take KI, but with caution:** If you have multinodular goiter, Graves' disease, autoimmune thyroiditis, or if you are taking any thyroid medication, you should have consulted with your physician before participating in Vermont's distribution program.

- **You can take KI, but should have medical follow-up:** If you are pregnant or could be pregnant or are breastfeeding, you should have one dose only, and then get medical follow-up. Newborns up to 1 month old who have received potassium iodide or whose mother took it should have medical follow-up to assure proper thyroid function.

Are there side effects to taking KI?

Short-term use of KI at the proper dosage is safe for most people. Side effects are generally mild (but note contraindications above). Possible side effects include gastrointestinal distress, and rash. Allergic reactions may be seen in adults with known iodine sensitivity.

What is Potassium Iodide (KI)?

Potassium iodide, also known as KI, is a form of iodine. Classified as a drug approved for over-the-counter sale, KI has been determined by the U.S. Food and Drug Administration (FDA) to be a safe and effective method to block exposure to one product of a nuclear release — radioactive iodine. Radioactive iodine, either inhaled or ingested through contaminated food or milk, can increase the risk of developing thyroid cancer.

How does KI work to protect against thyroid cancer?

The thyroid is a small gland located in a person's neck on either side of the breathing tube (trachea). Certain forms of iodine help your thyroid function properly. Most people get the iodine they need from foods like fish and iodized salt. The thyroid is designed to absorb and store iodine, but it can hold only so much, and will just as readily absorb non-radioactive potassium iodide as radioactive iodine. Because of this, one dose of potassium iodide, which is not harmful to the thyroid, works by filling the gland so it cannot take up any radioactive iodine.

Why is KI important in the event of a nuclear incident?

Because the thyroid will quickly absorb any iodine that is in the body, people may need to take KI tablets soon after an incident that involves radioactive iodine. The KI will fill up the thyroid gland with iodine and help prevent it from absorbing radioactive iodine. However, KI does not prevent the effects of other radioactive elements.

Using KI will only protect the thyroid gland from radioactive iodine. It will not protect other parts of the body from radioactive iodine, and it will not protect a person from other radioactive materials that may be released.